

# HIGH Frequency Crystals

15 MHz-160 MHz

- 15-66 MHz Shear Third Mechanical Overtone AT
- 61-110 MHz Shear Fifth Mechanical Overtone AT
- 111-140 MHz Shear Seventh Mechanical Overtone AT
- 141-160 MHz Shear Ninth Mechanical Overtone AT

## Resistance (Maximum)

- 15-66 MHz . . . . . 40 Ohms
- 60-110 MHz . . . . . 60 Ohms
- 110-140 MHz . . . . . 80 Ohms
- 140-160 MHz . . . . . 100 Ohms

## Drive (Maximum)

- 2 Milliwatts

## Shunt Capacitance

- 9 pf Maximum

## Type Specifications

**General Purpose (GP)** crystals will be calibrated to within  $\pm .01\%$  of frequency when operated into the customer's specified circuit load only. GP overtone crystals will hold temperature tolerance of  $\pm .005\%$  from  $-30^\circ$  to  $60^\circ\text{C}$ .

**Commercial Standard (CS and CS-1)** crystals will be calibrated to either .0025% (CS), or .001% (CS-1) as specified for operation in customer's load. CS crystals will hold temperature tolerance of  $\pm .003\%$  from  $-30^\circ$  to  $60^\circ\text{C}$ .

**High Accuracy (HA and HA-5)** crystals are for use in circuits where tolerances better than  $\pm .002\%$  from  $-30^\circ$  to  $60^\circ\text{C}$  are required. Tolerances of .0005% over the range  $-30^\circ$  to  $60^\circ\text{C}$  will require circuit compensation. Without compensation, the range will be limited to  $-10^\circ$  to  $60^\circ\text{C}$ . Compensators are not included with the crystals and tolerance is for crystals only and does not allow for any change in circuit parameters over the temperature range.

**When ordering, specify the following for each crystal:**

- Quantity
- Catalog Number
- Crystal Frequency

The table at right will enable you to convert the above information to the catalog number section of the M/S Order Card. The first two digits will relate to the calibration temperature, and the remaining four digits will relate to the crystal frequency, type, holder, and the circuit load, in this order.

Calibration Temperature	Range	Type	Holder	Load	Series
26°C	1	15-66 MHz	GP-1	20 pf	0
85°C	2	61-79 MHz	CS	24 pf	1
	3	80-110 MHz	CS-1	32 pf	2
	4	111-139 MHz	HA	43 pf	3
	5	140-160 MHz	HA-5	56 pf	4
				68 pf	5
				100 pf	6
					7
					8
					9

\* Available in FM-1 and FM-2 above 20 MHz



